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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,234

05/31/2005

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EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT

PAPER NUMBER

1713

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/537,234

Applicant(s)

KIM ET AL.

Examiner

Michael Bernshteyn

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Office Action follows a response filed on March 28, 2007. Claim 1 has been amended; claim 2 has been cancelled; no claims have been added.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 4, 2007 has been entered.
3. In view of the amendment(s) and remarks, the rejection of claims 1, 3 and 16-18 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over KP 2000-0075953 has been withdrawn.
4. Claims 1 and 3-18 are pending.

### ***Claim Rejections - 35 USC § 103***

5. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.
6. Claims 1 and 3-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yoshino et al. (JP 05-074461) in view of Noritake et al. (JP 10-302797), for the rationale recited in Office Action dated on June 9, 2006.

***Response to Arguments***

7. Applicants traverse the rejection under 35 U.S.C. § 103(a) of claims 1-18 as being unpatentable over Yoshino et al. (JP 05-074461) in view of Noritake et al. (JP 10-302797). Applicant's arguments have been fully considered but they are not persuasive.

8. In response to applicant's argument that independent claim 1 is not obvious over Yoshino in view of Noritake because the references fail to teach or suggest all elements of the claim (page 7, the last paragraph), it is noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

9. Furthermore, Yoshino discloses a secondary battery negative electrode using a carbonaceous material as negative electrode active material. In the negative electrode the negative electrode active material is bonded by a binder composed mainly of styrene-butadiene latex having a butadiene content of 40 to 95-wt% and a gel content of 75 to 100% (abstract). Yoshino does not disclose that the polymer particles have structured form of two or more phases having different physical properties.

Noritake discloses that the electrode binder for batteries contains a copolymer produced by polymerization of monomer units. The electrode binder contains particles having **core-shell structure** of which the core is made of a (co)polymer having glass transition temperature in the range  $-100-0^{\circ}\text{C}$ , and of which the shell is made of a (co)polymer with glass transition temperature in the  $-5-50^{\circ}\text{C}$  (abstract)

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Both references are analogous art because they are from the same field of endeavor concerning new polymer binders for lithium secondary battery.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to blend the polymer with core-shell structure of two phases having different physical properties as taught by Noritake with Yoshino's polymer binder composition in order to obtain an electrode binder for secondary batteries which provides high capacity, high charging performance, excellent charging and discharging cycle property and safety, and, for specifically, with which electrode activation material is retained on an electric collector material (JP'797, abstract), and thus to arrive at the subject matter of instant claim 1 and dependable claims 2-3. It is reasonable to expect that in this case the cell property, adhesive strength and/or coating property have to be met.

10. Regarding the Applicants arguments that Yoshino discloses a latex polymer binder, and Noritake discloses core-shell polymer structures having a lower  $T_g$  core and a higher  $T_g$  shell, and Applicants find no disclosure in either Yoshino or Noritake regarding either a three polymer component composition as claimed in amended Claim 1, or any instruction in the references (beyond the two layer core-shell polymers disclosed in Noritake) as to how the polymers are arranged in the binder (page 8, 2<sup>nd</sup> paragraph), it is noted that the amended claim 1 contains **either two or three layers**, not mandatory three layers. Therefore, Noritake's reference, which describes core-shell structure, fully covers the deficiency of Yoshino' reference.

11. In response to applicant's argument that there is no teaching or suggestion to combine elements of the references to produce the present invention (page 8, the last paragraph), it is noted that "The motivation in the prior art to combine references does not have to be identical to that of the applicant to establish obviousness, i.e. it is not required for a finding of obviousness that motivation of the skilled artisan be the same as an applicant motivation", *In re Kemps*, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1312 (Fed. Cir. 1996) (holding there is sufficient motivation to combine teachings of prior art to achieve claimed invention where one reference specifically refers to the other).

Therefore, it is well settled that for a finding of obviousness under § 103 the prior art need not disclose the same motivation as disclosed by an applicant.

12. Applicants contend that the specification specifically discloses that a binder has unexpected beneficial properties and provides comparative evidence demonstrating those properties. It is disclosed that a binder having two or more phases, that is, a binder according to the present application, can provide a higher adhesive strength, an excellent cell property, and a better coating property (specification, p. 2, lines 19-22). The specification also discloses comparative data supporting that a binder of the present application provides an excellent cell property (Examples 1, 2, and 4 to 17) (page 9, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs).

13. It is noted that Noritake clearly discloses that the electrode binder for batteries having core-shell structure, provides high capacity, high charging performance, excellent charging and discharging cycle property, safety and raises the use effectiveness of a rechargeable battery (abstract, page 9, [0023]).

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Therefore, "unexpected beneficial properties" of the binder (according to the Applicants, page 9, 1<sup>st</sup> paragraph) were already achieved by Noritake' core-shell structure, which is substantially identical to the amended claim 1.

Yoshino also discloses that the final composition has good cell property, adhesive strength and coating property (JP'461, pages 2 and 3, [0009], [0019], [0020], [0026] and [0027]).

14. In the light of the discussion above, the rejection of record has not been withdrawn. The rejection remains in force.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn  
Patent Examiner  
Art Unit 1713

MB  
06/08/2007

  
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